

METHOD OF PREPARING MEMBRANE ELECTRODE ASSEMBLIES WITH AEROGEL SUPPORTED CATALYST

ABSTRACT

A process of manufacturing a membrane electrode assembly comprises the steps of preparing an electrode-forming catalyst ink comprising porous aerogel supported catalyst and an electrolyte; depositing the prepared catalyst ink on a polymer film to form one or more catalyst layers; hot-pressing the one or more catalyst layers deposited on the polymer film at a temperature that is higher than a glass transition temperature of the electrolyte; decreasing the temperature of the hot-pressed catalyst layer and the polymer film; and removing the polymer film from the one or more catalyst layers.